

## REMARKS

Applicant thanks the Examiner for his careful review of the application in the Action dated 11/18/02. Applicant has studied this Action, amended appropriately, and argues for allowance of the claims remaining in the application. Applicant respectfully requests examination or reexamination of these remaining claims.

The claims have been amended to apply to cylindrical bodies, typically fluorescent tubes. As explained in the application, a problem with servicing large numbers of fluorescent fixtures is dealing with the replacement of the fluorescent tubes in a safe and efficient way.

The Examiner has rejected all of the claims originally in this application under § 103 citing the Maddock reference in view of Lyon. Applicant respectfully responds that this rejection should not stand for the following reasons.

### Maddock

Maddock shows a fluorescent tube carrier. This carrier is intended to carry both new and used tubes. Maddock teaches a procedure for disclosing the new or spent state of fluorescent tubes by breaking the spent tubes. This teaches away from amended claim 1. In the claims through claim 42, a spent

article is indicated by a distinctive change on an end surface of the tube. The whole point is to avoid the potential danger of broken tubes that can release phosphors into the air.

The Examiner alludes to the bottom of Maddock, col. 4 when he states that "Maddock suggests that each capsule could have signaling means thereon to indicate new or spent (used) fluorescent tubes, but fails to disclose the specific indication means for indicating the state of the fluorescent tubes within the capsule."

Applicant agrees completely. Maddock discloses signaling means carried on the package (capsule) for identifying good and used tubes rather than on individual tubes. This procedure for indicating which are the good tubes and which are the used tubes is substantially different from that claimed. The claims describe articles such as fluorescent tubes that carry on their own bodies, an indication of the state of each body. This is not a trivial difference for a number of reasons.

In the first place, markings on the package are not "self-activating". By self-activating, we mean that the very act of handling the article, say by inserting the article in the package or the lighting fixture, provides (activates) the

indication of the article's state. No other action or manipulation is needed to indicate the state of the article.

Thus, in the case of a fluorescent tube, as a service person removes a failed tube in a building that tube is inserted in a package of new tubes. A new tube is removed from the same package and placed in the fixture to replace the just-removed tube. The mere act of swapping the two tubes, with nothing more or little more, distinguishes the good tube from the used tube.

A typical package has at least 25 tubes. After a few new tubes have been removed and replaced with failed tubes, it is not easy to distinguish the tubes that are new from the failed tubes. The similarity of the tubes makes any sort of markers on the package (as opposed to the tubes) for a number of reasons, inconvenient for indicating the status of the individual tubes.

Each time a new tube is replaced with an old one, any map on the package indicating where new and used tubes are located will have to be updated. The map is inconvenient to mark status for tubes that don't touch a package wall. If the installer is distracted for even a second, she may forget which tube was an old one and fail to update the map properly. Finally, the tubes may shift their locations within the package, making a map worthless.

Thus, the complexity of a system of package markings is likely to lead to errors. Any error in identifying a used tube creates the possibility that a used tube will be reinserted, in a fixture, which creates inconvenience and delay.

On the other hand, tubes having individual markings on them have what I called self-activation for indicating their state, and don't have these problems. A package of tubes that all have a first "perception", say a first color or shape, on one end and a second perception, say a second color or shape, on the other end can easily be used to provide an indication of state. The original package is shipped with all of the tubes oriented with all of the first perceptions adjacent to each other. As the installer returns a used tube in the package, she takes care to be sure that the "perception" of the visible end of the old tube is different from that of the visible ends of all of the new tubes remaining in the package. She does this by simply inserting the old tube in the package with the second "perception" of the old tube adjacent to the first perceptions of all of the new tubes visible in the package.

Such a type of self-activation might be called "semi-automatic". Semi-automatic self-activation is some trivial action outside of normal activity in the course of exchanging a

new tube from and place an old one in the package of tubes requires a trivial amount of effort on the part of the installer, such as controlling the orientation of the old tube when it's replaced, marking its end, pulling a sleeve off a contact during installation, etc.

Another type of tube may have what might be called "automatic" self-activation for its perception. Such a tube is shown in Figs. 13 and 14 where a flag or dimple has its appearance changed by the simple act of installation. For these tubes, perception is automatically altered by the act of deployment.

It's hard to make a mistake with systems such as these. The indication "follows" the individual tube. The indication is created by the act of installation or removal. While nothing is perfect, the likelihood of introducing errors is much less since the process of "marking" a tube as used is greatly simplified.

Maddock teaches away from the invention in another important way. The basic premise of Maddock is that it's too hard to use the original package for storing both new and used tubes during the replacement process because the new and used tubes cannot be easily distinguished. This invention solves the problem in a way that apparently never occurred to Maddock.

As everyone familiar with fluorescent tubes knows, fluorescent tubes are very fragile. The more often a tube is handled, the more likely is the tube to break. One advantage of the claimed article is that only one transfer of a tube is required to install the tube in a fixture. And only one transfer of a tube is required to remove the tube from a fixture.

Careful handling to avoid breakage takes time. Reduced numbers of handling events saves time. Time is money. Reduced breakage of tubes saves both time and money. The tubes made according to this invention allow a system that reduces the amount of handling that tubes receive and therefore reduces the probability that tubes will be broken during handling.

#### Lyon

The Examiner concedes that the Maddock capsule carries the signaling means rather than the individual tubes. This is not a trivial difference. Examiner appears to concede this by citing Lyon.

Lyon shows a state indicator that is carried on the body of and between the ends of the article. The indicator may be a movable elastic band carried on fuel or other bottles with opaque walls. The band encircles the bottle and has two states,

one associated with a full bottle, and one associated with an empty bottle. These states are reached by moving the band between two different adjacent locations on the bottle and/or inverting the band to show a different side. Where the band is to be inverted, the two sides have different "perceptions", say for example having the word "Empty" on one side and "Full" on the other.

Every one of the claims at issue through claim 42 is limited to "perceptions" carried on an end of a cylindrical body. The perceptions allow the state of the body itself to be determined by a single glance at the end of the body when these bodies are packaged side by side. Such a "perception" allows the state of the body to be determined even when the body is packed in a side by side arrangement with only the ends visible when so stored.

Lyon too teaches away from the claims. The indication is centrally located on the body and will not be visible without withdrawing such a body from a side-by-side packaging arrangement. This is precisely what applicant is trying to avoid. Imagine how irritating it is for an installer to have to pull a dozen tubes from the package to find the last new one.

And how much more irritating is it whenever all of this extra handling results in a broken tube?

#### Further Comments

The claims disclose a number of different types of perceptions. Some are automatically altered from one state to the other when the article carrying the perception is deployed or installed. Other types of claims describe articles that are initially provided with a perception that must or can be removed or altered before the structure can be deployed or installed. Other articles have end-mounted pull-off tabs or other types of alterable or revealable features on an end.

Such an article in combination with any of the various types of claimed "perceptions" is distinct from the teachings suggested by Maddock and Lyon. Nothing in either of Lyon or Maddock teaches such "self-activating" perceptions for indicating the state of articles such as fluorescent tubes.

Applicant wishes to point out that there are innumerable articles that automatically reveal a depleted or used state: flashbulbs, beer bottles, ammunition for guns, soup cans, etc. Think of a humble case of beer bottles. As each bottle is used, it's replaced in the case. Each bottle has its cap removed to



place the bottle in "use". These articles are of the type usually supplied in a side by side packaging format.

However, the type of article to which these claims are directed does not have such an automatic or inherent process or mechanism that discloses the state of an article. Where the article is of the type that for convenience or necessity is supplied in packaging that places large numbers of articles in a side by side relationship that renders the new articles indistinguishable from the used articles, the invention of these claims makes an important contribution in making their deployment simpler and safer.

Some of the claims (e.g. 33 and 42) distinguish over Maddock in another way in that no additional intervention such as marking or orienting the tube is required after the tube has failed. The mere act of deployment changes the state of a flag or other projection. The perception does not come into effect until the article finally fails. This is a structural feature of these claims that is not suggested by either Maddock or Lyon, and therefore provides a further basis for allowance.

Claim 43 has been amended to include the limitations of claim 46. Claim 47 is new. Claims 43 and 47 extend to the packages themselves, the teachings in the description with

respect to individual articles. The mechanism of providing on the package itself, equipment or means to easily distinguish a package of used tubes from a package of new ones is not taught by Lyon or Maddock. Lyon deals with individual articles. The Maddock capsule has no multi-ply label intended for sealing the capsule, and hence falls far indeed from the limitations of claims 43 and 47.

Conclusion

In view of the preceding discussion, applicant believes that a strong case has been made for allowing these claims and passing this case to issue. Applicant respectfully requests such action by the Examiner.

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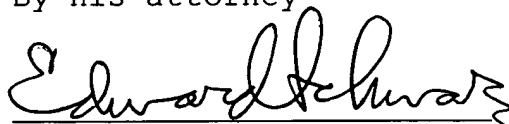
Respectfully submitted,

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Date

2/18/03



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Appendix A

1. (Amended) In an [An] article having a cylindrical body having similar first and second ends, said article of the type to be packed with other like articles in side by side arrangement with only one of the ends of each article easily visible, and said article having a first state and a second state, an improved configuration of at least one end of each article for easy identification, classification, and inventory tracking, the improved configuration [improvement] comprising at least one end of said article having [a first state and a second state,] a first perception and a second perception, said first perception indicating said first state of said article and said second perception indicating said second state of said article.

3. (Amended) An article according to Claim 1, wherein said article has a surface at each end [plurality of surfaces] and wherein said first perception is provided by a first identifiable characteristic located on one said surface and said second perception is provided by a second identifiable characteristic located on another of said surfaces.

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5. (Amended) An article according to Claim 1, comprising at least two [wherein a plurality] of said articles [are] contained together in a side by side arrangement in a package [bulk] and wherein said articles are oriented [aligned] such that said first identifiable characteristic of each article in the package is adjacent to the first identifiable characteristic of each of the other articles [characteristics are aligned along one side of the packaging].

6. (Amended) An invention [article] according to Claim 5, wherein the package enclosing [packaging encloses] said articles has [with] an exterior surface and wherein a portion of the exterior surface adjacent [that is proximal to] the alignment of each said first identifiable characteristic [characteristics] contains a marking.

7. (Amended) An article having a cylindrical shape and having first and second ends, said article having [comprising] a first state and a second state, and at least one end of the article having a first perception and a second perception, said first perception indicating said first state and said second perception indicating said second state.

8. (Amended) An article according to Claim 7, wherein said first perception is present only before use of [and second perceptions are incorporated into] said article and said second perception is present after use [during manufacturing] of said article.

9. (Amended) An article according to Claim 7, wherein said first and second perceptions are incorporated into said article respectively before use and after use [the manufacturing] of said article.

10. (Amended) An article according to Claim 7, wherein said article further comprises a means for changing said first perception into said second perception when said article is placed into use [changes to a different state].

11. (Amended) An article according to Claim 10, wherein said means for changing said first perception is comprised of a [the] chemical composition of at least a portion of the material comprising said article, said chemical composition altering appearance during use of the article.

22. (Amended) An article according to Claim 1, wherein said article has a material thereon comprised of two overlapping surfaces, wherein said first surface represents [representing] said first state and said second layer represents [representing] said second state, said article having means for revealing said second state.

23. (Amended) An article according to Claim 22, wherein said revealing means comprises a first surface having [is] a scratch off coating [and said means for revealing is provided by said scratch off coating].

24. (Amended) An article according to Claim 22, wherein said revealing means comprises first and second surfaces [are] releasably adhered together[ and said means for revealing said second state is provided by removal of said first surface].

30. (Amended) An article according to Claim 28, wherein said material is constructed and arranged to change color in response to an emanation [a stimulus] provided by the use of the article.

31. (Amended) An article according to Claim 1, wherein the amount of said change is measured by the amount of use of said

article and therefore the amount of emanation [stimulus] provided.

43. (Amended) A method for identifying, classifying, and inventory tracking bulk packaged goods having at least a first state and a second state, comprising the steps of:

providing at least one package of [two] bulk [packages of] goods wherein at least one package contains goods [is] of a first state and at least one package contains goods [is] of a second state;

providing said bulk packages of goods with a first perception indicating said first state and a second perception indicating said second state;

providing a multi-ply label on said bulk packaging, wherein a first layer represents said first identifiable characteristic and a second label represents a second identifiable characteristic; and

removing said first layer from said multi-ply label; and



applying said first layer to said bulk package to seal said  
package

[differentiating said at least one package of said first state  
from said at least one package of said second state].